

IL'INA, V.A.; KRITSKAYA, V.K.; SHAROV, B.V.

Antisotropy of atomic shifts in neutron-irradiated Fe, Cu, and
W. Dokl. AN SSSR 158 no.4:843-845 O '64.

(MIRA 17:11)

1. Institut metallovedeniya i fiziki metallov Tsentral'nogo
nauchno-issledovatel'skogo instituta chernoy metallurgii im. I.P.
Bardina i Institut teoreticheskoy i eksperimental'noy fiziki
Gosudarstvennogo komiteta po ispol'zovaniyu atomnoy energii.
Predstavleno akademikom G.V. Kurdyumovym.

SECRET (TOP SECRET) (TOP SECRET) (TOP SECRET) (TOP SECRET)

SR/2717/64/900/10B/0112/0121

Author: V. A. Krivakaya, V. K. Kabanov

Production of low crystals and films and their properties

1. Introduction. The present article is devoted to the study of the properties of low crystals and films of polyethylene terephthalate (PET) and polyethylene naphthalene terephthalate (PEN).

2. Experimental. The samples were prepared by the method of slow cooling of the melt. The measurements were carried out on a Perkin-Elmer DSC-1 differential scanning calorimeter.

3. Results and Discussion. It is shown that the low crystals of PET and PEN have a similar structure. The melting point of the low crystals of PET is 145°C and of PEN is 155°C. The low crystals of PET and PEN are stable up to a temperature of 180°C. The low crystals of PET and PEN are produced by slow working. The low crystals of PET and PEN are stable up to a degree of 100°C.

... that the defects were of the
... in microhardness, etc. and of
... independent deformations. The presence
... chromium, tungsten, etc. also had
... no effect on the recrystallization
... 20 figures.

SUBMITTED: 00

RECEIVED: 01

BATENIN, I.V.; IL'INA, V.A.; KRITSKAYA, V.K.; SHAROV, H.V.

Effect of neutron irradiation on the crystal structure and properties
of metals and solid solutions. Probl. metalloved. i fis. met. no.8;
112-124 '64. (MIRA 18:7)

metal: Investigation with neutrons on the lattice parameters of certain

SOURCE: Fizika metallov i metallovedeniye. v. 19, no. 2, 1969, 301-303



L 26589-66 EWT(m)/EPF(n)-2/EWA(d)/T/EWP(t) IJP(c) GG/JD

ACC NR: AP6011429 SOURCE CODE: UR/0020/66/167/004/0789/0791

AUTHORS: Kritskaya, V. K.; Il'ina, V. A.; Kuznetsova, A. E.; Sharov, B. V.

40
B

ORG: Institute of Metal Science and the Physics of Metals of the Central Scientific Research Institute of Ferrous Metallurgy im. I. P. Bardin (Institut metallovedeniya i fiziki metallov Tsentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii); Institute of Theoretical and Experimental Physics (Institut teoreticheskoy i eksperimental'noy fiziki)

TITLE: Anisotropy¹⁸ of displacements of the atoms in the crystal lattice of the alpha phase of neutron-bombarded carbon steel

SOURCE: AN SSSR. Doklady, v. 167, no. 4, 1966, 789-791

TOPIC TAGS: carbon steel, neutron bombardment, crystal lattice deformation, crystal lattice defect, crystal anisotropy

ABSTRACT: This is a continuation of earlier work by the authors (DAN v. 158, no. 4, 843, 1964) where anomalies were observed in the atten-

Card 1/3 UDC: 539.12.04

2

L 26589-66

ACC NR: AP6011429

uation of certain x ray reflections from neutron-bombarded steels. Since the experimental material obtained in the earlier investigation was insufficient to draw definite conclusions concerning the crystallographic directions in the lattice of the investigated metals, the authors have carried out a more complete study, using the α phase of U-9 steel. The preparation of the samples, the heat treatment, the neutron-bombardment conditions, and the x ray photography procedure were the same as before, except that a mechanical pulse counter was added to the apparatus to improve the reliability and the accuracy. To determine the variation of the intensity of the x-ray reflections from different crystallographic planes, the authors measured the integral intensities of the x ray interferences of a large number of reflections with different multiple values of h, k, and l. The results show that neutron bombardment decreases the intensity of the scattered x rays more for some planes than for others. This is taken as convincing proof that the crystallographic orientation plays an important role in the formation of point defects by neutron bombardment. The distribution of these defects is anisotropic. The mean displacement of the atoms was 0.04 \AA for the (h00) and (hhl) planes.

- Card

2/3

L 26589-66

ACC NR: AP6011429

as against 0.025 \AA for most other planes. Certain planes (for example (631)) experienced no change in scattering ability at all after bombardment. This report was presented by Academician G. V. Kurdyumov on 24 July 1965. Orig. art. has: 2 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 02Jul65/ ORIG REF: 005/ OTH REF: 004

Card 3/3 BLG

L 29891-66 ENI(m)/I/EWP(t)/EII IJP(c) JD

ACC NR: AR6008794

SOURCE CODE: UR/0277/65/000/010/0006/0006

AUTHOR: Batenin, I. V.; Il'ina, V. A.; Kritskaya, V. K.; Sharov, B.V.

TITLE: Effect of neutron irradiation¹⁹ on the structure and properties of metals and solid solutions ₁₆

38
B

SOURCE: Ref. zh. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley mashin. Gidroprivod, Abs. 10.48.43

REF SOURCE: Sb. tr. In-t metalloved, i fiz. metallov Tsentr. N.-1. in-ta chernoy metallurgii, vyp. 36, 1964, 112-124

TOPIC TAGS: neutron irradiation, iron, chromium, copper, iron alloy, hardening

ABSTRACT: Results are given of the investigation of hardening and softening processes in iron, copper, chromium, and Fe-8% Cr; Fe-4% Ni; Fe-6% W, which underwent neutron irradiation (an integral neutron flow of 10²⁰ and 10²¹ neutr/cm²). Neutron irradiation results in a significant hardening of material, similar to the effect of cold plastic flow.

SUB CODE: 18,11/ SUBM DATE: none

Card 1/1 *cc*

IL'INA, V. A.

90

PHASE I BOOK EXPLOITATION

SOV/6176

Konobeyevskiy, S. T., Corresponding Member, Academy of Sciences
USSR, Resp. Ed.

Deystviye yadernykh izlucheniv na materialy (The Effect of
Nuclear Radiation on Materials). Moscow, Izd-vo AN SSSR,
1962. 383 p. Errata slip inserted. 4000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye tekhnicheskikh nauk; Otdeleniye fiziko-matematicheskikh nauk.

Resp. Ed.: S. T. Konobeyevskiy; Deputy Resp. Ed.: S. A. Adasinskiy; Editorial Board: P. L. Grusin, G. V. Kurdyumov, B. M. Levitskiy, V. S. Lyashenko (Deceased), Yu. A. Martynyuk, Yu. I. Pokrovskiy, and N. F. Pravdyuk; Ed. of Publishing House: M. G. Makarenko; Tech. Eds: T. V. Polyakova and I. N. Dorokhina.

Card 1/14

The Effect of Nuclear Radiation (Cont.)

9C
SOV/6176

PURPOSE: This book is intended for personnel concerned with nuclear materials.

COVERACE: This is a collection of papers presented at the Moscow Conference on the Effect of Nuclear Radiation on Materials, held December 6-10, 1960. The material reflects certain trends in the work being conducted in the Soviet scientific research organization. Some of the papers are devoted to the experimental study of the effect of neutron irradiation on reactor materials (steel, ferrous alloys, molybdenum, avial, graphite, and nichromes). Others deal with the theory of neutron irradiation effects (physico-chemical transformations, relaxation of internal stresses, internal friction) and changes in the structure and properties of various crystals. Special attention is given to the effect of intense γ -radiation on the electrical, magnetic, and optical properties of metals, dielectrics, and semiconductors.

Card 2/14

The Effect of Nuclear Radiation (Cont.)

SOV/6176

- Batenin, I. V., V. A. Il'ina, V. K. Kritskaya, G. V. Kurdyumov, and B. V. Sharov. Investigation of the Effect of Neutron Irradiation on Thin Crystalline Structure and Properties of Metals and Alloys 160
Annealed specimens (copper at 400°; iron and iron-nickel at 600°; iron-chromium and iron-tungsten at 650°; and chromium at 900°) were irradiated with neutron fluxes of $\sim 10^{20}$ and $\sim 10^{21}$ n/cm² at a temperature not exceeding 80° [C?].
- Karpukhin, V. I., and V. A. Nikolayenko. Remote Controlled Installation for X-Ray Diffraction Analysis of Radioactive Specimens 168
- Levitskiy, B. M., and Yu. A. Martynyuk. Installation for X-Ray Examination of Highly Active Specimens 173
- Sharov, B. V., I. V. Batenin, and A. N. Rudenko. X-Ray Unit for Structural Investigation of Radioactive Materials 180

Card 8/14

~~IL'INA, V.I.~~

Scientific work of the Department of Psychology of the Moscow First
Pedagogical Institute of Foreign Languages. Vop.psikhol. no.1:
119-120 Ja-F '56. (MLRA 9:5)
(Language and languages--Study and teaching)

IL'INA, V.I.

Palynological complexes of Jurassic sediments in northeastern
Kazakhstan. Geol.i geofiz. no.5:57-64 '61. (MIRA 14:6)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR
Novosibirsk.

(Kazakhstan—Palynology)

PIMENOV, V.V., nauchn. sotr.; TAROYEVA, K.F., nauchn. sotr.;
KEL'SEYEVA, Z.N., nauchn. sotr.; KONKK, U.S., nauchn.
sotr.; VYAYSINEN, T.I., nauchn. sotr.; ~~IL'IN, V.I.,~~
nauchn. sotr.; CHISTOV, K.V., otv. red.

[Verkhniy Olonets, a settlement of lumbermen ; an
experiment in ethnographical description] Verkhniy
Olonets - poselok lesorubov; opyt etnograficheskogo
opisanija. Moskva, Nauka, 1964. 194 p.

(MIRA 18:1)

1. Akademiya nauk SSSR. Karelo-Finskiy filial, Petrozavodsk. Institut istorii, yazyka i literatury.
2. Petrozavodskiy Institut yazyka, literatury i istorii AN SSSR (for all except Chistov).

KOMAROV, A.G.; MOSKALEVA, S.V.; BELYAYEV, V.M.; IL'INA, V.I.

Interpretation of magnetic fields over ultrabasic complexes;
serpentinization and magnetic properties. Dokl. AN SSSR 143
no.5:1166-1169 Ap. '62. (MIRA 1514)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskii institut.
Predstavleno akademikom D.I.Shcherbakovym.
(Ural Mountains--Geology, Stratigraphic)
(Magnetism, Terrestrial)

ILL'INA, V. I.

"On variants of speech."

report submitted for 5th Intl Cong of Phonetic Sciences, Muenster, W. Germany,
16-23 Aug 64.

IL'INA, V.I.

Studying the variations of speech. Vop. psikhol. 11 no.6:
100-109 N-D '65. (MIRA 19:1)

1. Kafedra psikhologii I Moskovskogo gosudarstvennogo pedago-
gicheskogo instituta inostrannykh yazykov.

IL'INA, V.I.

Age of Jurassic sediments on the left bank of the Tom'
River. Geol. i geofiz. no.10:89-96 '65.

(MIRA 18:12)

1. Institut geologii i geofiziki Sibirskogo otdeleniya
AN SSSR, Novosibirsk. Submitted November 2, 1964.

C A L'IMY, V.R.

12

The causes of the low yield of gluten from wheat of several
central provinces. N. P. Kor'min and V. N. Il'ina.
Doklady Vsesoyuz. Akad. Nauk SSSR. Natsionaln. Vuzov.
Leningrad, No. 12, 20-8(1964).—Poor drying of grain
causes a coagulation of the gluten proteins reducing the
yield of gluten. J. S. Joffe

USSR/Cultivated Plants - Grains.

M.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15576

Author : V. Il'ina, L. Butman

Inst : The All-Union Scientific Research Institute for Grain and Its Reprocessed Products.

Title : The Roentgenographic Method of Determining Rice Fracture (Rentgenograficheskiy metod opredeleniya treshchinovosti risa).

Orig Pub : Mukomol.-elevat. prom-st', 1956, No 6, 21-22.

Abstract : This study was made at the All-Union Scientific Research Institute for Grain and Its Processed Products. The roentgenographic method was used to determine the percentage of fractured rice grains according to the variety: Ueros 7, Uzbekskiy 2, American Shali and the Uzros 1377. The percentage of crushed kernels in the polished grains

Card 1/2

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618510013-6

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618510013-6"

KOZ'MINA, N.P., prof., doktor biol. nauk; IL'INA, V.N., kand. biol. nauk;
HUTIMAN, L.A., nauchnyy sotrudnik; ~~BRUNOVA, K.T.~~, nauchnyy
sotrudnik

Isolating the proteins of grain and legume seeds through
fractionation of flour by specific weight. [Trudy] VNIIE no.35:
104-111 '58. (MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skoy institut serisa i pro-
dukter yego pererabotki.
(Proteins) (Flour--Analysis)

KOZ'MINA, N.P., doktor biologicheskikh nauk; IL'INA, V.N., kand.
biologicheskikh nauk; NAUMOVA, A.T., nauchnyy sotrudnik

Micromethod for determining gluten in wheat grain. Trudy
VNIIZ no.38:129-141 '60. (MIRA 15:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna.
(Wheat—Analysis and chemistry) (Gluten)

IL'INA, V. N.

Cand. Biol. Sci.

"Investigation of the Pilotropic Action of Indium," Sub. 15 Dec 47, First Moscow Order of Lenin Medical Inst.

Dissertations presented for degrees in science and engineering in Moscow in 1947.

SO: Sum.No.457, 18 Apr 55

Il'ina, V. N.

KERBIKOV, O.V.; IL'INA, V.N.

Pathology of orientation in infectious psychoses; clinical illustration of one of pathophysiologic rules. Zh. vysshei nerv. deiat. 2 no. 2:224-227 Mar-Apr 1952. (DML 23:3)

1. Yaroslavl'.

KERBIKOV, O. V.; IL'INA, V. N.

Insanity

Pathology of orientation in infection psychoses; clinical illustrations of a pathophysiological law. Zhur. vys. nerv. deiat. 2 no. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, September 1952. Unclassified.

KERBIKOV, O. V.; IL'INA, V. N.

Shock Therapy

Alleviated electrostimulation therapy in anesthesia. Zhur. nevro. i psikh. 52 no. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, August, 1952. Unclassified.

IL'INA, V. N.

Shock Therapy

Modification of arterial blood pressure in convulsions of animals resulting from electric shock. Zhur.nevr.i psikh. 52 no. 7, 1952.

Monthly List of Russian Accessions, Library of Congress. November, 1952. Unclassified.

IL'INA, V.N.

"Clinical and Experimental Data on the Development of Methods of Mitigated
Electroshock Therapy." Cand Med Sci, Second Moscow State Medical Inst imeni
I.V. Stalin, Yaroslavl', 1953. (KL, No 16, Apr 55)

SO: Sum.No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations
Defended at USSR Higher Educational Institutions (16).

USSR / Human and Animal Physiology. Blood. Form Elements. T

Abs Jour: Ref Zhur-Biol., No 22, 1958, 101752.

Author : Ushakov, G. K; Il'ina, V. N.; Panus, L. V.

Inst : Not given.

Title : The Peculiarities of Reactivity of the Blood System in Schizophrenia.

Orig Pub: V sb.: Aktual'n. probl. nevropatol. i psikiatrii, Kuybyshev, 1957, 270-276.

Abstract: 2000 investigations of blood were conducted in psychic patients. In 92.8% of the analyses, erythropenia was discovered, in 88.76% hypohemoglobinemia, in 50.3% low indexes of sed. rate. The reduction of the speed of the sed. rate was mostly observed in low indices of Hb content and number of erythrocytes. Leucopenia was observed in 40.1% of patients; furthermore, even in normal indices

Card 1/2

*Chair of Psychiatry, Yaroslavl Med Inst.
i Oblast Psycho-neurological Hospital.*

IL'INA, V.M.; POLETAYEV, A.S.; USHAKOV, G.K.; KHOKHLOV, I.K.; GAIKINA, Z.I.;
SALYAYEV, V.M.; STOLYARCHUK, A.A.

Clinical aspects and psychopathology of Q fever. Zhur. nevr. i psikh
59 no.3:295-303 '59. (MIRA 12:4)

1. Kafedry psikhiatrii (zav. - dots. G.K. Ushakov), infektsionnykh
bolezney (zav. - prof. A.I. Resnikov), farmakologii (ispolnyayushchiy
obyazannosti zaveduyushchego - kand. med. nauk V.M. Salyayev) Yaroslav-
skogo meditsinskogo instituta i Gorodskaya klinicheskaya infektsionnaya
bol'nitsa (glavnyy vrach A.S. Poletayev).

(Q FEVER, compl.

ment.-disord. (Rus))

(MENTAL DISORDERS, etiol. & pathogen.

Q fever (Rus))

USHAKOV, G.K.; IL'INA, V.N.; KHOKHLOV, L.K. (Yaroslavl')

Changes in the reactivity of the body during Q fever. Kaz.med.zhur.
no.5:117 S-0 '60. (MIRA 13:11)
(Q FEVER)

DOBROSERDOV, L.L.; IL'INA, V.P.

Effect of calcium chloride on the composition of the vapor phase
during the distillation of the system normal propyl alcohol - water.
Zhur. prikl. khim. 34 no.2:386-390. F '61. (MIRA 14:2)

1. Voronezhskiy tekhnologicheskii institut.
(Calcium chloride) (Propyl alcohol.)

DOBROSERDOV, L.L.; IL'INA, V.P.; LYSENKO, K.D.

Regeneration of formaldehyde in the production of "vinol" fibers.
Khim. volok. no.2;22-24 '65. (MIRA 18:6)

1. Leningradskiy institut tekstil'noy i legkoy promyshlennosti.

TRET'YAKOVA, Ye.N., prof.; GATAULINA, L.D., kand.med.nauk; IL'INA, V.T.;
PANTELEYEVA, A.P.; SMIRNOVA, L.K.; ABDURASHITOVA, Kh.Sh.

Distribution of rheumatic fever among the school children of
Ufa. Vop.rev. 3 no.1:66-70 Ja-Mr '63. (MIRA 16:4)

1. Iz kafedry detskikh bolezney (zav. - prof. Ye.N.Tret'yakova)
Bashkirskogo meditsinskogo instituta i Detskoy Klinicheskoy
bol'nitsy No.3 (glavnyy vrach A.I.Vetslar) goroda Ufy.
(UFA--RHEUMATIC HEART DISEASE)

ISAYEV, Aleksandr Ivanovich; SUKHOVEKHOV, Filipp Mikhaylovich; CHERNOV, Petr Georgiyevich; MATTSKH, A.E., retsenzent; PSIUNCHIK, P.I., retsenzent; IL'INA, V.V., redaktor; CHEBYSEVA, Ye.A., tekhnicheskii redaktor.

[Designing and operating hydraulic installations in waters used for fishing] Proektirovanie i ekspluatatsiia gidrosooruzhenii rybovodnykh khsiaistv. Moskva, Fishchepromizdat, 1956. 270 p.
(Hydraulic engineering) (MLRA 9:8)
(Fishways)
(Fish culture)

IL'INA, Y.V.

CHERFAS, Boris Iosifovich, professor, doktor biologicheskikh nauk; KOZHIN, N.I., professor, retsenzent; NIKOL'SKIY, G.V., professor, retsenzent; IL'INA, Y.V., redaktor; CHEBYSHOVA, Ye.A., tekhnicheskiy redaktor

[Fish culture in natural waters] Rybovodstvo v estestvennykh vodotokakh. Izd. 3-e, perer. i dop. Moskva, Pishchepromizdat, 1956. 468 p. (Fish culture) (MIRA 10:1)

USSR/Human and Animal Physiology - Physiology of Labor and Sports.

V-14

Abs Jour : Ref Zhur - Biol., No 1, 1958, 4543

Author : Ye. Il'ina

Inst : -

Title : The Influence of a High Outer Temperature on the Dynamics of the Arterial Pressure of Patients with Hypertensive Disease Working in the Kombinat "Trekhgornaya Manufactura"

Orig Pub : Klinich. medits., 1957, 35, No 3, 46-50

Abstract : No abstract.

Card 1/1

TEINA, Ye-A.

CA

11A

Amino acid composition of the proteins of muscle, gastric and intestinal wall, prostate, and thyroid. A. P. Sharpenak, R. A. Ulin, and O. N. Balashova (Second Moscow Med. Inst.). *Biochimica* 11, 133-6(1946); cf. *C.A.* 30, 3579. —The proteins of the gastric and intestinal wall are richer in lysine and poorer in histidine, tyrosine, and tryptophan, when compared with muscle tissue proteins. Little tyrosine and tryptophan are found in the prostate proteins, whereas the thyroid proteins are rich in arginine and lysine. A lower lysine and phenylalanine content are found in the muscles of women than in man.

H. Peatley

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION

6-27-57

SEARCHED	INDEXED	SERIALIZED	FILED

И. И. И., И. И. И.

marking of minutes

3:094. Kle, meniy6 norok. karakulevodstvo i zverovodstvo, 1949, ka. 5,
c. 68-69

SO: Knizhuaya, Letopis', Vol. 7, 1955

IL'INA, Y. D.

The breeding of fur-bearing animals. Moskva, Gos. izd-vo tekhn. i ekon. lit-ry po voprosam zagotovok, 1952. 335 p.

IL'INA, YE.D.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Il'ina, Ye.D.	"Wild Animal Science" (textbook)	Moscow Pelt and Fur Institute

80: W-30604, 7 July 1954

IL'INA, Ye. D.

Sables

Increasing the fertility of sables. Kar. i zver. 5 No. 4, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

USSR/Farm Animals - Wild Animals.

Q-6

Abs Jour : Ref Zhur - Biol., No 1, 1958, 2624

Author : Ye. D. Il'ina, I.A. Gus'kova

Inst : -

Title : The Effect of Living Conditions on the Growth and Development of Young Foxes.

Orig Pub : Tr. Mosk. vet. akad. 1957, 16, 46-54

Abstract : An analysis of the data available at the Saltykov zveresov-khoz indicated that the intensity of growth and the time of sexual maturity of female foxes depends on the time of birth of the cubs. Maintenance of the young foxes whether in individual cages or paired in cages with a larger area, produces a positive effect on the growth of the animals, and a negative effect on the fertility of the mothers. This last statement should be verified. Inform: that the maintenance of male foxes in the same cage with the females does not appear to stimulate the fecundity of the females.

Card 1/1

LYSENKO, T.D.; PAPANIN, I.D.; POZDNYAKOV, Ye.V.; VARUMTSYAN, I.S.;
PREZENT, I.I.; LEPIKHIN, A.V.; GRIBANOV, R.N.; MUDIN, V.M.;
GERCHIKOV, N.P.; KORYAZHNOV, V.P.; VSYAKIKH, A.S.; IL'INA, Ye.D.

In memory of Petr Aleksandrovich Manteifel'. Agrobiologia
no. 3:453-454 My-Je '60. (MIRA 13:12)
(Manteifel', Petr Aleksandrovich, 1882-1960)

IL'INA, Yelena Dmitriyevna, dots.; BALAKIN, V.M., red.; SOKOLOVA, N.N.,
tekhn. red.

[Fur farming] Zverovodstvo. Moskva, Sel'khozizdat, 1963.
422 p. (MIRA 16:7)

(Fur farming)

KORYAKIN, V.I.; VODOLAZOV, V.N.; Prinsipali uchastiye BULANOV, V.A.;
ZEMTSOVA, V.F.; IL'INA, Ye.I.

Industrial experiments in the production of furfural by
pyrolysis. *Gidroliz. i lesokhim. prom.* 14 no. 1:9-12 '61.
(MIRA 14:1)

1. Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy
institut.

(Furaldehyde)

(Pyrolysis)

VYSOTSKAYA, N.B.; IL'INA, Ye.I.; KHARKEVICH, D.A.

Effect of ganglion-blocking agents on the activity of some enzyme systems and the concentration of sulfhydryl groups in the cervical ganglion. Fiziol. zhur. SSSR 46 no. 9:1076-1082 S '60.
(MIRA 13:10)

1. From the Institute of Pharmacology and Chemotherapy and the Chair of Pharmacology, Sechenov Medical Institute, Moscow.
(AUTONOMIC DRUGS) (ENZYMES) (MERCAPTO GROUP)

IL'INA, Ye-M.
CA

The alkaloid of *Salicora subaphylla*. A. A. Kravtsov and E. M. Il'ina. *Doklady Akad. Nauk S.S.S.R.* 67: 513-16(1949). Part. of the upper parts of the plant with EtOH, followed by conversion of the alkaloids into picrates, gave, from 12.0 g. plant matter, some 20.0 g. substance, following pptn. of which retained aphylline picrate (I), following pptn. of which retained as the picrate, m. 184.5°, HCl salt, m. 229.5° (decompn.), HBr salt, m. 218° (decompn.), isulfate, m. 143.5° (decompn.), and the normal sulfate, m. 226° (decompn.). I with alc. NaOH gave the free alkaloid, *C₁₁H₁₅N₃O₂*, needles, hygroscopic and without definite m.p.; mono-picrate, m. 218.5° (decompn.); HCl and HBr salts were precip., both having a wide melting range. Hydrogenation over Pt oxide in EtOH gave the dihydro salt; picrate, m. 174.5-5°; HCl salt, m. 139-41°. Boiling subaphylline with 20% KOH leads to cleavage and formation of ferulic acid and putrescine. The probable structure of the alkaloid is: *3,6-DIAKHO* $C_{11}H_{15}N_3O_2$.
G. M. Koudakov

RYABININ, A.A.; IL'INA, Ye.M.

Structure of subaphyllin alkaloid. Doklady Akad.nauk.SSSR 76
no.5:685-687 11 Feb 51. (CML 20:5)

1. Presented by Academician A.N.Nesmeyanov 7 December 1950.

ca LINA, YE. P.

10

the structure of the alkaloid subaphyllin. A. A. Ryabinin and E. M. Ulanovskiy *Ibid.* *Nouv. S.S.S.R.* 70, 180 (2, 1931); *J. C. I.* 64, 115g. The previously proposed structure, *N*-(4-hydroxy-3-methylpiperonyl)tetramethylmethanamine, is confirmed. Boiling dihydrosubaphyllin with 27% KOH, 7.5 hrs. yielded putrescine (isolated as the dipicrate) and *dihydroferulic acid*, m. 80°. Subaphyllin with HCl in 8% KOH gave the *dl*-*2a* deriv., m. 197-8° (from MeOH). Slow soln. of 32 g. *dl* and 14.4 g. sulfamide to 32 g. NaOH in 200 ml. H₂O at 14°, heating 15 min. to 80°, addn. of KOH (to 10% concn.) and then of 32 g. HCl gave 18.95 g. *dibenzylputrescine*, m. 176-6.5°, which (10 g.) boiled 4 hrs. with 100 ml. 80% EtOH and 80 ml. 30% KOH gave 1.76 g. *N*-benzylputrescine-HCl, m. 165°, after extr. with CHCl₃ and acidification with HCl. Shaking 1 ml. HCl with 1 g. ferulic acid in 100 ml. H₂O and 20 g. K₂CO₃ in the presence of 1 ml. CCl₄ gave the mixed anhydride of benzoylferulic and ferulic acids, C₁₈H₁₆O₆, an undescribed solid (from MeOH). This (0.4 g.) and *N*-benzylputrescine (from 0.23 g. HCl salt) in CHCl₃ gave 0.2 g. *N*-(6-benzyloxy-3-methylpiperonyl)-*N'*-benzyltetramethylmethanamine, m. 196.5-6.5°, identical with *dibenzylsubaphyllin*. G. M. Kosolapoff

ca

LINA, Ye. M.

10

Transformations of alkaloids in *Seneciois turbosensis*
 A. A. Myalinskii and E. M. Ufimtseva. *Dokl. Akad. Nauk S.S.S.R.* 79, 851 (1961). RIB. In the upper parts of the plant (cf. C.A. 48, 2267) yielded *senecioosin* as a picric acid, m. 140°, and *sphaeropyrine* as a dipicrate; on MeCOEtOH the former alkaloid is found in the 1st crop, and on water with picric acid, *senecioosin* is found. Before the sphaeropyrine. Pure *senecioosin* picrate, $C_{20}H_{24}N_2O_8$, m. 140° (decoloration from MeCO). Demethylation of this compound (20 g.) at 100° gave 15.9 g. *senecioosin* picrate, m. 170.2° (from KOH); the HCl salt, m. 162.5-3.0° (from MeOH). Hydrolysis of *senecioosin* by hot H_2SO_4 (1:1) gave meconic acid. Hence, *senecioosin* is $MeC_7H_{11}C_2H_3N_2$. $CH_3N(C_7H_7)N(C_7H_7)N$, while *senecioosin* is $MeC_7H_{11}C_2H_3N_2$. $C_7H_7N(C_7H_7)N(C_7H_7)N$.
 G. M. Kozlovskii

11/17/79

SECRET

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618510013-6

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618510013-6"

USSR.

CH
O

~~Alkaloids of Eranthis. A. A. Ryabko and E. D. ...~~
~~... Zhen. Prirod. Khim. 27, 221-3 (1954); cf. C. S. ...~~
 R. S. K. -- An ext. of *E. strobilata* plants (0.3 kg) yielded
 0.80 g. spherophytic carbonate, $d_{20}^{25} 1.52-1.53$ (lit.
 pierite, m. 152-6°), and 0.66 g. spherulitic pierite, m. 153-
 4° (cf. C. A. 47, 4737, for details of the extn. method).
 The product of the aq. extn. of 0.35 kg. dry branches of *E.*
strobilata extd. with Me_2CO yielded 0.51 g. spherulitic pierite, m. 152.5-4.5°, and 1.65 g. spherulitic pierite, m. 153-4°.
 The extn. of CO_2 evolved on heating, 0.40 g. of the lat-
 ter extd. was estd. to be acid. G. M. Kopylov.

ILINA, Ye. M.

AID P - 3504

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 19/21

Authors : Ryabinin, A. A. and Ye. M. Il'ina

Title : Chemical investigation of Thermopsis Fabacea DC

Periodical : Zhur. prikl. khim., 28, 6, 663-664, 1955

Abstract : The green parts of the plant were analyzed, and the isolated substances identified as pratol, cytisine, and methycytisine. Seven references, 1 Russian (1934).

Institution : Chemical Laboratory of the Section of Plant Resources of the Botanical Institute im. V. L. Komarov, Academy of Sciences of the U.S.S.R.

Submitted : S 19, 1953

AUTHOR: Il'ina, Ye.M., Engineer SOV/28-58-6-30/34

TITLE: The Principal Units of Hydraulic Mechanisms for Tractors, Agricultural and Road Machines (Osnovnyye agregaty gidravlicheskiikh mekhanizmov traktorov, sel'skokhozyaystvennykh i dorozhnykh mashin)

PERIODICAL: Standartizatsiya, 1958, Nr 6, p 86 (USSR)

ABSTRACT: The Committee of Standards, Measures and Measuring Devices has approved three new state standards: 1) GOST 8753-58 for pumps in hydraulic mechanisms of tractors which specify the output, maximum and operating pressure, rpm of the pump shaft, etc.; 2) GOST 8754-58 for distributors of hydraulic mechanisms of tractors; and 3) GOST 8755-58 for cylinders of hydraulic mechanisms of tractors and other machines with a piston

Card 1/2

SCV/60-53-1-22/43

Protective Effect of Volatile Inhibitors and Anticorrosion Greases Under Conditions of Tropic Temperatures and High Humidity

layer grease and does not affect other liquid anticorrosion greases. The grease with 2% of barium soap of montanion and 10% of lanolin fully protected the samples from corrosion in a 26-day test under the conditions cited above. There are 2 tables and 5 references, 3 of which are Soviet, and 2 English.

SUBMITTED: March 28, 1958

Card 2/2

69912

S/109/60/005/04/028/028
E140/E435

9.4230

AUTHORS: Tseytlin, M.V. and Il'ina, Ye.M.
TITLE: The Analysis of Electron-Flow Interaction with a Travelling Wave

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol 5, Nr 4, pp 700-704 (USSR)

ABSTRACT: In the assigned field approximation, it is usually assumed that the HF-field intensity in the delay line varies exponentially. However, in this approximation, it is not possible to study the signal behaviour in the initial part of the tube. In the present note the form of variation of the HF-field amplitude along the tube is not preassigned but is determined from the equation of balance of real power. It is assumed that the field in the line may be represented by a single wave with constant face velocity. The results of the study permit the value of gain to be estimated. There are 4 figures and 8 references, 6 of which are Soviet, 1 English and 1 English in Russian translation.

SUBMITTED: May 18, 1959
Card 1/1

21442

S/109/01/006/001/021/023
E140/E163

9.4230

AUTHORS: Tseytlin, M.B., and Il'ina, Ye.M.

TITLE: TWT amplification with finite values of the gain parameter C

PERIODICAL: Radiotekhnika i elektronika, Vol.6, No.1, 1961, pp. 170-175

TEXT: The propagation constants in a TWT are expressed by an equation of fourth degree with complex coefficients. To simplify this equation it is usually assumed that the amplification parameter C introduced by Pierce is much smaller than unity. However, in medium and high power tubes C may reach values of 0.1 - 0.2. The energy method previously proposed by the present authors (Ref.4: Radiotekhnika i elektronika, 1960, Vol.5, No. 4, 700) permits a simple solution of the problem at finite values of the parameter C. The article presents various graphs, of interest in TWT theory, based on this solution. There are 8 figures and 6 references: 4 Soviet and 2 English.

SUBMITTED: April 19, 1960

Card 1/1

22270

S/109/61/006/005/017/027
D201/D303

9.423/
AUTHORS:

Tseytlin, M.B., and Il'ina, Ye.M.

TITLE:

The configuration of the field in a backward wave tube in the presence of distributed attenuation

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 5, 1961, 826 - 828

TEXT: In their earlier work (Ref. 1: Radiotekhnika i elektronika, 1960, 5, 6, 1010) the authors gave an analysis of the operation of a backward wave oscillator. In the present article, they generalize the previous analysis extending it to a backward wave oscillator with losses. The equation for the balance of power in presence of attenuation in the tube, by analogy with Eq. (18) of another of the authors' works (Ref. 2: Radiotekhnika i elektronika, 1960, 5, 4, 700) will have the shape of

$$\left(\frac{E_1^2(x)}{2} - \frac{P_0}{\beta_0} \right) \int_0^x E_1(x) dx = \int_0^x E_1(t) \sin k(x-t) \sin \beta_0(x-t) dt - \frac{P_0 C d^2}{2} \int_0^x E_1^2(x) dx, \quad (1)$$

Card 1/5

22270

22270

S/109/61/006/005/017/027
D201/D303

The configuration of the ...

$$s=0, E_1(s) = E_1(0), \frac{dE_1}{ds} = \beta_0 C_d E_1(0), \frac{d^2 E_1}{ds^2} = (\beta_0 C_d)^2 E_1(0), \quad (3)$$

$$\frac{d^3 E_1}{ds^3} = (\beta_0 C_d)^3 E_1(0), \frac{d^4 E_1}{ds^4} = -2km E_1(0).$$

The solution of Eq. (2) can be represented as

$$E_1(s) = \sum_{i=1}^n C_i e^{\lambda_i s}, \quad (4)$$

where λ_1 - the roots of the characteristic equation for Eq. (2).

Assuming that disturbances introduced by losses are small it can be assumed in approximation that

$$\lambda_1 = \lambda_{01}(1 - \delta), \quad (5)$$

where λ_{01} - the roots of the corresponding characteristic equation for $d = 0$. The constants of integration C_1 are determined by sub-

Card 3/5

22270

S/109/61/006/005/017/027
D201/D303

The configuration of the ...

stituting into Eq. (4), the initial conditions

$$C_1 = \frac{2km + \lambda_{01}\lambda_{02}\lambda_{03}\beta_0 C d - (\lambda_{01}\lambda_{02} + \lambda_{01}\lambda_{03} + \lambda_{02}\lambda_{03} (\beta_0 C d))}{\lambda_{01}(\lambda_{02} - \lambda_{03}) (\lambda_{02} - \lambda_{01}) (\lambda_{03} - \lambda_{01})} \quad (6)$$

C_2, C_3, C_4 are determined by cyclically changing the indices

$$C_i = 1 - \sum_{j=1}^4 C_j \quad (7)$$

The distribution along the tube of the relative amplitude of HF field intensity for different values of parameter d and for a negligibly small space charge ($QC = 0$) is shown. A similar dependence for the space charge ($QC = 0.25$) is also given graphically. The presence of maximum can be explained as follows: The field amplitude in the absence of losses varies according to a nearly sinusoidal law, i.e. at the beginning of the tube it remains practically constant. The attenuation of the "cold" wave along the line is exponential and its amplitude decreases along the direction of the energy stream. It follows that the power stream of losses increa-

Card 4/5

SECRET

The configuration of the ...

S/109/61/006/005/017/027
D201/D303

ses continuously in this direction and the increase of amplitude of the field due to interaction with the electron stream is compensated at a certain point by the decrease due to losses, after which the amplitude will begin to decrease. The trigger values of CN are determined from the condition of the zero field at the collector. The dependence of trigger values of CN on the distribution of losses L shown then for various values for the space charge parameter QC. There are 3 figures and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: H. Johnson, Proc. I.R.E. 1955, 43, 6, 684. X

SUBMITTED: September 9, 1960

Card 5/5

IL'INA, Ye.M., dots.

"Medicinal plants of Kostroma Province" by G.I. Lebedev. Reviewed
by E.M. IL'ina. Apt.delo 7 no.5:95-96 8-0 '58 (MIRA 11:10)
(KOSTROMA PROVINCE—BOTANY, MEDICAL)

IL'INA, YE. V.

IL'INA, YE. V. -- "On the Effect of External High Temperature on the Dynamics of Arterial Pressure in Patients Suffering from Hypertonic Diseases Employed at the 'Trekhgornaya Manufaktura' Kombinat." Gor'kiy State Med Institute imeni S. M. Kirov, Moscow, 1956. (Dissertation for the Degree of Candidate of Medical Sciences)

SO: Knizhnaya Letopis' No 43, October 1956, Moscow

ILIANA
Ye. V.

EXCERPTA MEDICA Sec 17 Vol 5/1 Public Health Jan 59

108. THE EFFECT OF INDUSTRIAL MICROCLIMATE ON THE LEVEL OF BLOOD PRESSURE OF WORKMEN FROM THE TEXTILE INDUSTRY (Russian text) - Ilyina E. V. - GIGIENA 1957¹² (27-33) Tables 3
Investigations were carried out on 88 workers of the textile plant 'Trekhgornaya Manufatura' suffering from hypertensive vascular disease. The data obtained indicate that persons suffering from hypertensive vascular disease, when working at an air-temperature of 28-35° C., displayed a considerable fall of blood pressure towards the end of the working period. On the other hand, the blood pressure of those working at a lower temperature (20-22°) increased or remained stable towards the end of the day. During the warm months the blood pressure was lower than during the cold months. Considerable physical and especially neuro-psychic strain produced a rise of blood pressure. Similar results were obtained during an investigation carried out under experimental conditions. Persons working at a temperature of 28-35° had the least number of days of sick-leave due to aggravations of hypertensive vascular disease. After 7 yr. a second investigation was carried out on the same workers and no signs of progress of the disease were established. The environmental temperature of 28-35° may not be considered as a contraindication for employment of persons suffering from hypertensive vascular disease if they are adapted to working under such temperature conditions.

Cent. Sci. Res. Inst. Exptl.
Investigation of Work Capacity & Organization
of work of invalids

IL'INA, Ye.V. (Moskva)

Effect of high temperature on the dynamics of arterial pressure in hypertensive patients working at the "Trokhgornaya Manufacture" combine. Klin.med. 35 no.3:46-50 Nr '57. (MIRA 10:7)

(TEMPERATURE, eff.)

high temperature on hypertensive plant workers (Rus))

(HYPERTENSION)

eff. of high temperature in plant workers (Rus))

ANTIPIN, V.I.; BUDANOV, N.D.; KOTLUKOV, V.A.; LEYBOSHITS, A.M.;
PROKHOROV, S.P., kand.geol.-miner.nauk; SIRMAN, A.P.;
FALOVSKIY, A.A.; SHTEYN, M.A.; BASKOV, Ye.A.; BOGATKOV,
Ye.A.; GANEYEVA, M.M.; ZARUBINSKIY, Ya.I.; IL'INA, Ye.V.;
KATSIYAYEV, S.K.; KOMPANIYETS, N.G.; NELYUBOV, L.P.;
PONOMAREV, A.I.; REZNICHENKO, V.T.; RULEV, N.A.; TSELIGOROVA,
A.I.; ALSTER, R.K.; SHVETSOV, P.F.; VIKHODTSEV, A.P.; KOTOVA,
A.I.; KASHKOVSKIY, G.N.; LOSEV, F.I.; ROMANOVSKAYA, L.I.;
PROKHOROV, S.P.; MATVEYEV, A.K., dots., retsenzent; CHEL'TSOV,
M.I., inzh., retsenzent; KUDASHOV, A.I., otv. red.; PETRYAKOVA,
Ye.P., red. izd-va; IL'INSKAYA, G.M., tekhn. red.

[State of flooding and conditions for the exploitation of coal-
bearing areas in the U.S.S.R.] Obvodnennost' i usloviya eksplu-
atatsii mestorozhdenii ugol'nykh raionov. Pod nauchn. red.
S.P.Prokhorova. Moskva, Gosgortekhzdat, 1962. 243 p.

(NERA 15:7)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut gidro-
geologii i irzhenernoy geologii. 2. Kafedra geologii i geo-
khimii goryuchikh iskopayemykh Moskovskogo Gosudarstvennogo
universiteta (for Matveyev).

(Coal geology) (Mine water)

~~IL'DINA, Ye.V.~~, LYUBOMIROV, B.N.; TYCHINO, N.Ya.; TOKAREV, I.N.,
vedushchiy red.; SAFRONOVA, I.M., tekhn.red.

[Underground waters and gases of the Siberian Platform]
Podzemnye vody i gazy Sibirskoi platformy. Ges. nauchno-tekhn.
izd-vo nef. i gorno-topl.ivnoi lit-ry, Leningr. otd-nie.
1962. 289 p. (Leningrad. Vsesoiuznyi neftianoi nauchno-
issledovatel'skii geologorazvedochnyi institut. Trudy,
no.189). (MIRA 14:11)

(Siberian Platform--Petroleum geology)
(Siberian Platform--Gas, Natural--Geology)

BORZOV, V.P.; IL'INA, Ye.V.

Determination of the thickness of oxide coatings on aluminum alloys.
Izv.AN SSSR,Ser.fis.19 no.2:207-208 Mr-Apr '55. (MIRA 9:1)
(Tartu--Spectrum analysis--Congresses)

И. П. Борзов, Е. В. Илина

USSR/Optics - Optical Methods of Analysis. Instruments.

K-7

Abs Jour : Referat Zhur - Fizika, No 3, 1957, 7941

Author : Borzov, V.P., Ialina, Ye.V.

Title : Determination of the Thickness of Oxide Coatings on Aluminum Alloys.

Orig Pub : Izv. AN SSSR, ser. fiz., 1955, 19, No 2, 207-208

Abstract : Description of a method for determining the thickness of porous oxide films from the relative intensity of the pairs of lines of the filler (potassium bichromate) and of the base. It is assumed that the porosity of the films is constant and that the pores are uniform in depth and are fully filled with the potassium bichromate. The thickness of the standard films used to plot the graph were determined by two methods: (1) weighing and (2) metallographically. The work was carried out with a AL-8 alloy and with duraluminum. The spectra were excited in an ac arc of intensity 1.3 amp with an upper

Card 1/2

- 87 -

USSR/Optics - Optical Methods of Analysis. Instruments.

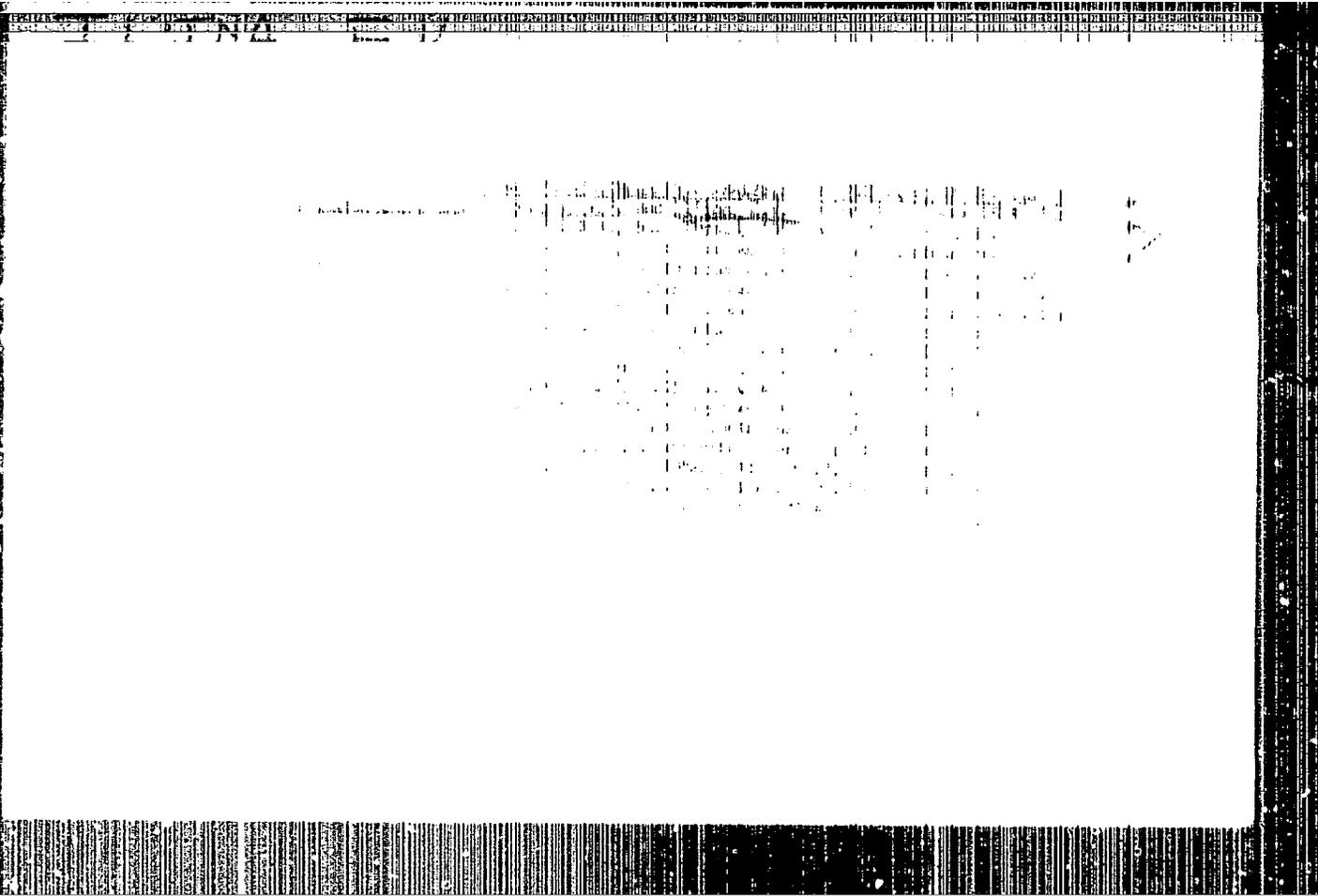
K-7

Abs Jour : Referat Zhur - Fizika. No 3, 1957, 7941

electrode made of copper. The spectra were recorded with a spectrograph ISP-22 (analytical pair of lines: Cr II 2835.6 -- Al II 2816.2 A). The probable error in the determination is 3.0%. The porosity of the film was determined from the plot of the intensity of the lines of the filler vs. the volume of the pores of the film. The thickness of the film was first determined by another method.

Card 2/2

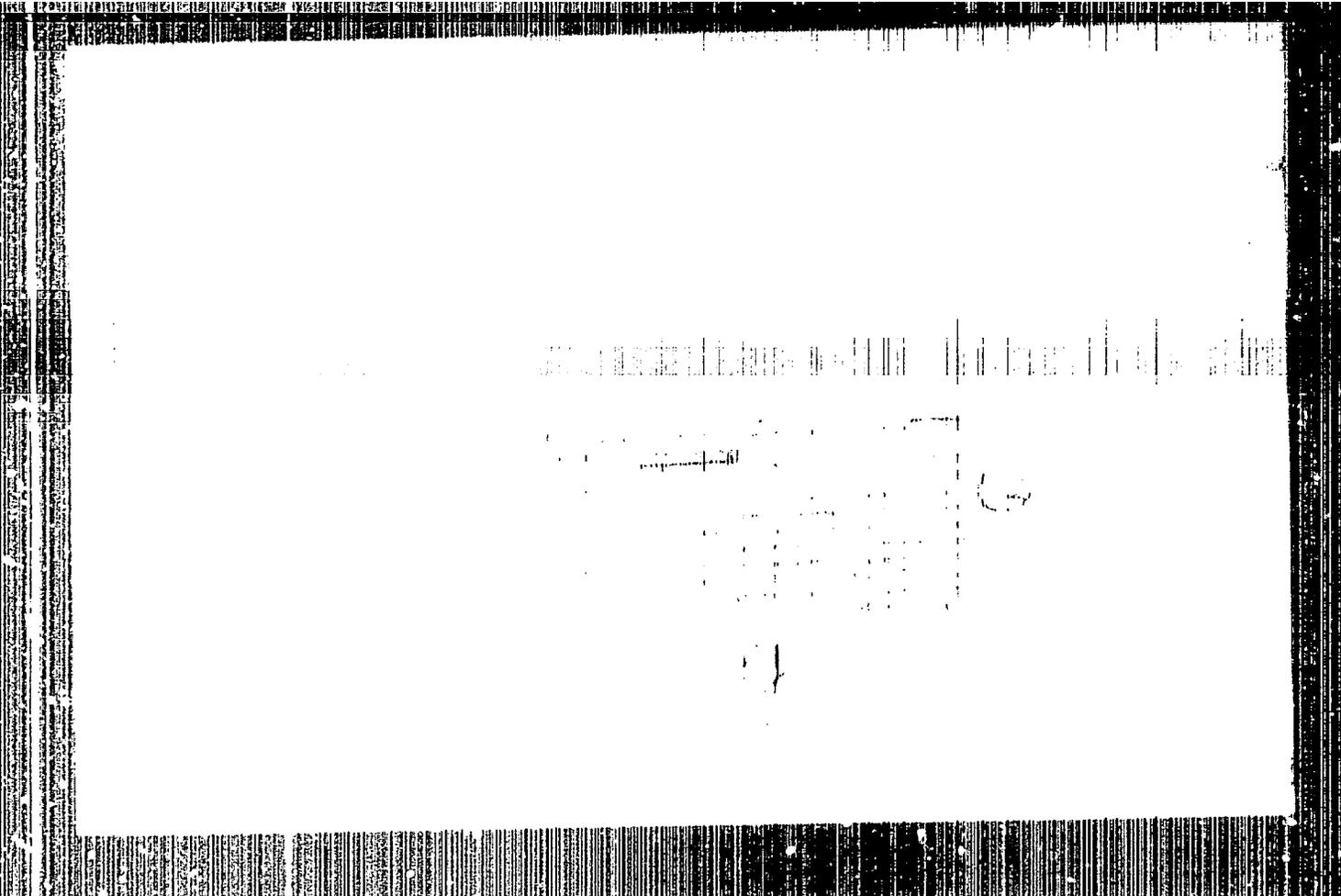
- 88 -



317C. Spectrographic method of determining the thickness of galvanic coatings. V. P. Horov and E. V. Il'ina (*Sov. Lab.*, 1958, 21, 31, 327-331). - *cf.*
The spectrum of the coating is obtained on a plate moving at a const. rate, and the change in the relative intensity of a pair of lines, one belonging to the coating metal and the other to the base metal, is plotted. For single-layer coatings of Cr and Ni on brass, and of Ni, Cr, Cd and Cu on steel, results for thickness calculated from standardization graphs show errors of 7 to 8 per cent. A variation of the method suitable for two- and three-layer coatings of different metals is described.

G. S. Suttie

Handwritten initials: ST and De



BORZOV, Vasilii Pavlovich; IL'INA, Yelena Vital'yevna; TYUMENEVA,
Sof'ya Trofimovna; YREKER, D.P., tekhn.red."

[Ten-year studies of the Seminar on Application of Spectrum
Analysis in Leningrad] Desiat' let raboty seminaro po pri-
meneniiu spektral'nogo analiza v Leningrade. Leningrad,
Leningr.dom nauchno-tekhn.propagandy, 1958. 11 p. (Informa-
tsionno-tekhnicheskii listok, no.61. Kontrol' kachestva
produksii). (MIRA 12:8)

(Spectrum analysis)

CHUCHIA, N.G.; BELYAKOVA, Ye.Ye.; BOROVSAYA, I.S.; VOLKOV, A.M.; GRAYNER, M.I.;
IL'INA, Ye.V.; KAZAKOV, I.N.; KIRKINSKAYA, V.N.; KISLYAKOV, V.N.;
KRASIL'NIKOV, B.N.; MAYMINA, L.G.; OSIPOVA, N.A.; RADYUKOVICH, L.V.;
ROMANOV, F.I.; KULIKOV, M.V., red.; DOLMATOV, P.S., vedushchiy red.;
YASHCHURZHINSKAYA, A.B., tekhn. red.

[Geology, and oil and gas potentials of the Mimusinsk Lowland]
Geologicheskoe stroenie Mimusinskikh meshgornykh vpadin i
perspektivy ikh nefte-gazonosnosti. Leningrad, Gos. nauchn.
tekhn. izd-vo nef. i gorno-toplivnoi lit-ry Leningr. otd-nie,
1958. 288 p. (Leningrad. Vsesoiuznyi neftianoi nauchno-issledo-
vatel'skiy geologorazvedochniy institut. Trudy, no. 120)
(MIRA 12:5)

(Mimusinsk Lowland--Petroleum geology)
(Mimusinsk Lowland--Gas, Natural--Geology)

IL'INA, Ye.V.

Hydrogeology of the Yakut artesian basin. Trudy VNIIGHI no. 130:183-
233 '59.

(Yakutia--Water, Underground)

(MIRA 14:4)

29297
S/051/61/011/004/002/004
E202/E592

26.2311

AUTHORS: Gol'dfarb, V.M. and Il'ina, Ye.V.

TITLE: Determination of the mean residence time of atoms and the coefficient of diffusion in an arc discharge plasma

PERIODICAL: Optika i spektroskopiya, v.11, no.4, 1961, 445-451

TEXT: High speed photographic studies of carbon arc discharges, 8 mm long, were carried out by introducing fine needles carrying 0.1 to 0.3 mm diameter beads of NaNO_3 , BaCO_3 and Li_2CO_3 . These needles were either stationary, or traversed the plasma channel, at midpoint between the electrodes at a constant velocity of 60 cm/sec. The high speed cine camera was synchronised with the entry of the beads into the plasma. Background arc luminosity was rejected by suitable cut-off filters. Two independent methods were used to determine the coefficient of diffusion D . The first method was based on plotting the rate of blackening of the film against the time lapse, and thus lead to the evaluation of the mean residence time τ_v of the atoms introduced into the plasma and hence to the determination of the diffusion coefficient D_1 . In the second method, the coefficient of diffusion D_2 was determined from the rate of propagation of the luminous front within the plasma.

Card 1/3

Determination of the mean residence ... ²⁹²⁹⁷ S/051/61/011/004/002/004
E202/E592

using a sequence of high speed photographs and plotting, with the help of a microphotometer, a series of curves relating the blackening to the distances from the axis at each particular instance. The results given by these two methods are summarized below: Table 2

Metal	τ_y (sec)	D_1 (cm ² /sec)	D_2 (cm ² /sec)
Li	0.002(0.0014-0.0027)	28	40
Na	0.003(0.0022-0.0039)	19	21
Ba	0.005(0.0037-0.0060)	11	13

The authors found that the evaporation of the bead starts within a few thousandths of a second after introduction and that the luminous region surrounding the bead grows preferentially in the direction of the cathode where it is retained for 0.01 sec after

Card 2/3

Determination of the mean residence ... ²⁹²⁹⁷ S/051/61/011/004/002/004
E202/E592

the main part of the luminous cloud is diffused. During the decay stage, the highest luminosity was observed not along the axis but along the peripheries of the discharge. There are 8 figures, 2 tables and 9 references: 2 Soviet and 7 non-Soviet. The English-language references read as follows: Ref.1: F. I. Symon. Proc. Roy. Soc., 46, 153, 1925; Ref.2: G. E. Davis. Phys.Rev., 24,283,1924; Ref.3: H. A. Wilson. Phil.Mag., 24, 168, 1912; Ref.5: J.H.Arnold. Ind.Eng.Chem., 22, 1091, 1930. ✓

SUBMITTED: November 19, 1960

Card 3/3

3929h

S/048/62/026/007/024/030

B125/B104

26.7311

AUTHORS: Il'ina, Ye. V., and Gol'dfarb, V. M.

TITLE: Determination of the mean duration of the atoms and diffusion coefficient in the plasma of an arc discharge

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 7, 1962, 939-941

TEXT: The mean duration of atoms in the plasma of an arc discharge is estimated for a simple model of an arc discharge: the atoms were excited and emitted in a sphere of constant temperature with radius R . The source of matter with the intensity α is in the center of this sphere. The time dependence of the concentration of matter is determined from the diffusion equation $dN/dt = D\Delta N$. The effect of the electric field and convection are neglected. N is the number of atoms, and D is the diffusion coefficient of the atoms of the substance to be studied. From this diffusion equation, $\tau_y = R^2/2.9 D_1$ follows for the mean duration of the atoms in the plasma. D_1 and τ_y of Li, Na, and Ba are determined by means

Card 1/2

X

Determination of the mean duration ...

S/048/62/026/007/024/030
B125/B104

of a high-speed CKC-1 (SKS-1) camera (300 pictures per second) for a d-c arc (5 a) with carbon electrodes. NaNO_3 , BaCO_3 , and Li_2CO_3 were introduced into the arc with a quartz needle. The diffusion coefficient (values D_2 in the table) was also determined by measuring the rate of the boundary displacement of the cloud which had formed around the grain of matter introduced into the plasma.

metal	τ_y , sec	D_1 , $\text{cm}^2 \text{sec}^{-1}$	D_2 , $\text{cm}^2 \text{sec}^{-1}$
Li	0.002 (0.0014 ÷ 0.0027)	28	40
Na	0.003 (0.0022 ÷ 0.0039)	19	21
Ba	0.005 (0.0037 ÷ 0.0060)	11	13

There are 3 figures and 1 table.

Card 2/2

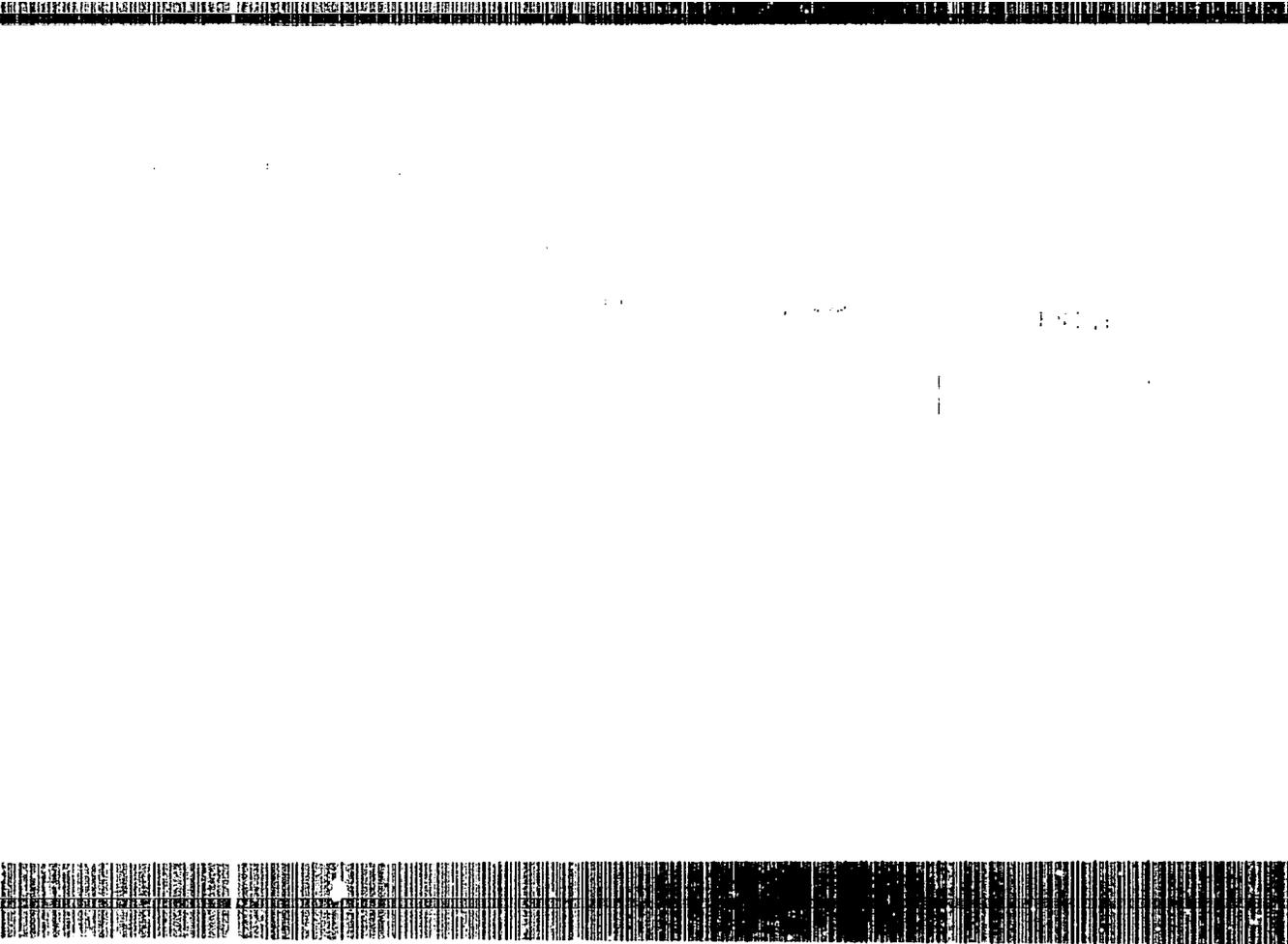
IL'INA, Yelena Vital'yevna; GOL'DFARB, Viktor Markovich; HORIZOV,
V.P., red.

[Mutual effect of elements in the spectrum analysis of
powder samples in a carbon arc] Vzaимnye vliianiia elementov
pri spektral'nom analize poroshkovykh prob v ugol'noi duge.
Leningrad, 1963. 20 p. (Leningradskii dom nauchno-
tekhnicheskoi propagandy. Obmen peredovym opytom. Seria:
Metody i sredstva kontroliia, ispytaniia materialov, detalei
i mekhanizmov, no.5) (MIRA 17:5)

IL'INA, Ye.V.

Spectral analysis of lubricating and combustible materials (survey).
Zav.lab. 29 no.11:1317-3121 '63. (MIRA 16:12)

produced substance was separated by interference light filters
with a transmission maximum half-width 80-120 Å. The curves showing
the variation of the blackening from frame to frame have made
it possible to determine the average time that the atoms stayed in



in/Date/1/1/1965/1/1/1965/1/1/1965

TITLE: Determining the content of iron in various soil samples

CITED SOURCE: Sb. Tr. Leninsk. gos. in-t. no. 33, 1965, 142-149

... an increase of n_0 by one order, at high concentrations of ionized atoms, will decrease the ... The author ...

ACCESSION NR: AP4043025

S/0051/64/017/002/0302/0304

AUTHORS: Gol'dfarb, V. M.; Il'ina, Ye. V.

TITLE: Cesium line broadening in the plasma of a dc arc

SOURCE: Optika i spektroskopiya, v. 17, no. 2, 1964, 302-304

TOPIC TAGS: arc discharge radiation, dc arc discharge, cesium, line broadening, alkali metal, electron concentration, Stark effect, spectrum analysis

ABSTRACT: The electron concentration n_e of a dc carbon arc was determined from the line broadening of Cs lines, the Stark constants for which were calculated by H. B. Griem (Phys. Rev. v. 128, 515, 1962). The use of cesium was dictated by the insufficient intensity of the customarily used hydrogen lines in weak arcs. Tests with a KS-55 spectrograph were made to check that the line broadening is indeed due to the Stark mechanism. The dependence of n_e on the

Card. 1/2

ACCESSION NR: AP4043025

amount of metal introduced was also measured and the possibility of determining n_e from the metal concentration was verified. The variation of n_e along the arc was found to follow the variation in the metal density. Deviations occurring on the boundary of the radiating region are explained. It is also pointed out that the variation of line broadening of alkali metals, frequently used as buffers in spectral analysis, can be used to judge the stability of the excitation and ionization conditions. Orig. art. has: 2 figures and 3 tables.

ASSOCIATION: None

SUBMITTED: 09Dec63

SUB CODE: OP

NR REF SOV: 006

ENCL: 00

OTHER: 006

Card 2/2

L 45956-66 EWT(d)/EWT(1)/EWP(a) IJP(c) NW/AT

ACC NR: AP6018454

SOURCE CODE: LR/0051/66/020/006/1085/1086

AUTHOR: Gol'dfarb, V. M.; Il'ina, Ye. V.; Kostygova, I. Ye.; Luk'yanov, G. A.;
Silant'yev, V. A.96
B

ORG: none

TITLE: Population density of hydrogen levels in an argon-hydrogen plasma stream

SOURCE: Optika i spektroskopiya, v. 20, no. 6, 1966, 1085-1086

TOPIC TAGS: multicomponent plasma, supersonic nozzle, plasma generator, electron density, plasma electron temperature

ABSTRACT: Spectral emission of the argon plasma generated in the constant current plasmatron and flowing through a supersonic nozzle has been investigated. The electron density range was 10^{12} cm⁻³ to $3 \cdot 10^{15}$ cm⁻³ and electron temperature was 5000 to 2500°K. The spectrum was found to contain the lines of argon, hydrogen, recombination continuum and molecular bands of nitrogen (second positive system). The relative line intensity was determined by using Balmer lines for calibration. The spectrum was studied as a function of the radial position in the stream and the distance from the end of the nozzle. The population density of levels with principal quantum numbers $n=4$ and 5 increased with increasing distance to the axis and was found inverted at low electron densities. At the same time the $n=3$ and 4 as well as $n=6$ levels did not differ from

UDC: 533.9

Card 1/2